

CHROMOSOME NUMBERS FOR FIVE CHIHUAHUAN SPECIES OF  
*QUERCUS* (FAGACEAE)

Sergio Rodriguez T. & Richard Spellenberg

Dept. of Biology, New Mexico State University, Las Cruces, New Mexico  
88003 U.S.A.

ABSTRACT

Chromosome numbers determined from mitoses in root tips of sprouted acorns are reported for *Quercus basaseachicensis* Muller, *Q. chihuahuensis* Trel., *Q. depressipes* Trel., *Q. knoblochii* Muller, and *Q. rugosa* Neé. All are  $2n = 24$ , consistent with most others reported for this genus.

KEY WORDS: *Quercus*, Fagaceae, México, chromosome numbers

As part of the requirements for a class in cytogenetics offered by Dr. Max Dunford, chromosome numbers were determined for five oak species by S.R.T. Because oak chromosome numbers are so uniform, we do not plan to make further determinations in the foreseeable future. Therefore, we make available these counts. All are first reports for the species, and prior to now, no reports have been published for species of Mexican groups of *Quercus*. The following reports include one black oak (*Q. knoblochii*) and four white oaks, one narrow endemic (*Q. basaseachicensis*), two shrubs, the latter of which is extensively rhizomatous (*Q. basaseachicensis* and *Q. depressipes*), and three trees. Therefore, consistent with other reports of chromosome number, there is no indication that chromosome number varies according to habit.

Freshly collected acorns were germinated at room temperature in moist peatmoss. Root tips were pretreated in 0.3% colchicine for 2 hrs, fixed in 100% ethanol and glacial acetic acid (3:1, v:v) for 24 hrs, and were stored in 70% ethanol under refrigeration. Root tips were squashed and stained in acetocarmine, and observed at 1000 $\times$  with phase contrast. Place of deposition of voucher specimens are cited below; each at NMC has associated with it a drawing of the chromosomes prepared with the aid of a camera lucida. The chromosome number of  $2n = 24$  is consistent with all but a few of the several dozen that have been reported and listed in indices of plant chromosome numbers.

- Quercus basaseachicensis* Muller.  $2n = 24$ . MEXICO. Chihuahua: Mcpo. Ocampo, Parque Nacional de la Cascada de Basaseachic,  $108^{\circ}12'30''W$ ,  $28^{\circ}10'N$ , 1980 m, 26 Sep 1991, Spellenberg, Boecklen, & Gregory 10924 (CIIDIR,MEXU,NMC). Four plants make up the collection distributed under this number, twigs from different individuals identified by the letters A-D; the count was determined from the plant marked "A," which closely resembles an isotype from TEX.
- Quercus chihuahuensis* Trel.  $2n = 24$ . MEXICO. Chihuahua: Mcpo. Guerrero, 16 km E of Cuauhtemoc,  $106^{\circ}45'W$ ,  $28^{\circ}24'N$ , 1970 m, 28 Sep 1991, Spellenberg, Boecklen, & Gregory 10930 (NMC).
- Quercus depressipes* Trel.  $2n = 24$ . MEXICO. Chihuahua: Mcpo. Guerrero, 13 km E of Tomochic, ca. 1 km S of highway,  $107^{\circ}47'W$ ,  $28^{\circ}23'N$ , 2120 m, 23 Sep 1991, Spellenberg, Boecklen, & Gregory 10897 (CAS,MEXU,NMC).
- Quercus knoblochii* Muller.  $2n = 24$ . MEXICO. Chihuahua: Mcpo. Ocampo, 6.4 km W of Ocampo at km 33 on road to Moris,  $108^{\circ}22'W$ ,  $28^{\circ}11'N$ , 2070-2200 m, 26 Sep 1991, Spellenberg, Boecklen, & Gregory 10914 (CAS, CIIDIR,IBUG,MEXU,NMC,NY). This collection is a long series documenting variation in this population, individual plants identified by numbers; the count was made from plant marked "18" among the twigs distributed in this collection. All herbaria cited will receive samples of number 18, in addition to other twigs.
- Quercus rugosa* Neé.  $2n = 24$ . MEXICO. Chihuahua: Mcpo. Ocampo, ca. 8 km by winding road E of Ocampo, steep W facing slope,  $108^{\circ}19'W$ ,  $25^{\circ}11'N$ , 2060 m, 26 Sep 1991, Spellenberg, Boecklen, & Gregory 10923 (NMC).